

REMARKS

The present filing is responsive to the Office Action.

Summary of the Response

Claim 1 has been amended to correct an obvious typographical error noted by the Examiner. Claim 20 has been added. Claims 1-20 remain pending in this application. Reexamination and reconsideration of the present application as amended are respectfully requested.

Claim Rejections Under 35 USC 102

Claims 1-3, 6-7, 10-12 and 14-19¹ are rejected under 35 U.S.C. 102(e) as being anticipated by Fujii (US 7,071,929). This rejection is respectfully traversed.

At the onset, Applicant notes that Fujii is applied as a 102(e) reference. Given traversal of Fujii below, Applicant had not yet considered the option of swearing behind Fuji, but reserves the right to do so at a later date should the need arise.

Independent claim 1 recites “shifting the ON gate voltage and the OFF gate voltage, the control circuitry (50) maintaining a **constant difference** (39) between the ON gate voltage and the OFF gate voltage”. Independent claim 10 recites “shifting the ON gate voltage and the OFF gate voltage in response to the control signal (52), and maintaining a **constant difference**

¹ In the preamble of the 102 rejection appearing at the bottom of page 2, the Examiner did not cite to claims 14-19. However, in the body of the 102 rejection, the Examiner included claims 14-19. For purpose of the present response, to avoid unnecessary delays, Applicant would consider the rejection to be applicable to claims 14-19 as well.

between the ON gate voltage and the OFF gate voltage”. Independent claim 11 recites “shifting the ON gate voltage and the OFF gate voltage … whilst maintaining a constant difference between the ON gate voltage and the OFF gate voltage”.

The Examiner referred to col. 7, ll. 24-38 and col. 4, ll. 35-40 in Fujii to allege disclosure of maintaining a constant difference between the ON gate voltage and the OFF gate voltage. Applicant respectfully submits that the section referenced by the Examiner refers to the pulse width modulation of data signals, not gate signal. Fujii discloses a circuit for adjusting the signals on the data line (V_D), but the claimed invention recite controlling the gate voltage signals (i.e., on the gate line).

In addition to the above noted deficiencies in Fujii, Applicant respectfully notes that in the context of the present invention, as supported by the disclosure, the shifting of the ON and OFF gate voltages refers to the shifting of the amplitudes of the ON and OFF gate voltages, and the maintaining of constant difference between ON and OFF gate voltages refers to the maintaining of constant amplitude difference between ON and OFF gate voltages. Fujii does not disclose shifting amplitudes of ON and OFF gate voltages and maintain a constant amplitude difference between the ON gate voltage and the OFF gate voltage.

The referenced sections in Fujii do not provide for shifting the amplitudes of ON gate voltage and the OFF gate voltage. In fact, Fujii does not shift the amplitude of ON gate voltage or the OFF gate voltage, much less shift both amplitudes of both ON gate voltage and the OFF gate voltage. It is clear in Fujii that it at most discloses the amplitude of the ON gate voltage at a constant level, and the amplitude of the OFF gate voltage also at a constant level. The amplitudes of both ON gate voltage and OFF gate voltage are not being shifted at all. In fact, in the present action, the Examiner acknowledged in the last paragraph on page 3, that Fujii

discloses “pulse width modulated signal varying only the waveform period, and not amplitude of the On and Off gate signals.”

A reasonable reading of Fujii can only lead one to conclude that Fujii accommodates temperature effects by control of ON gate voltage in a manner that do not and cannot have a constant difference between amplitudes of the ON and OFF gate voltages. There is no teaching found anywhere in Fujii, that shifting of the amplitudes of ON and OFF gate voltages to maintain a constant amplitude difference between the ON and OFF gate voltages can and should be applied to accommodate temperature effects. By nature of pulse width modulation adopted in Fujii, even the pulse timing of the ON and OFF gate voltages in Fujii is not maintained constant, much less the amplitude difference between the ON and OFF gate voltages. To find otherwise would amount to reading into the cited references teachings neither explicitly nor implicitly supported by the disclosure of the reference, but instead based on hindsight of the disclosure of the present invention.

Accordingly, given at least the above noted deficiency, Fujii is therefore deficient in its disclosure to support anticipation of the claimed invention in claims 1, 10 and 11 and all their dependent claims. Should the Examiner reject the claims based on other grounds in the next action, such action should not be made final, as independent claims 1, 10 and 11 have not been amended to necessitate a new ground of rejection.

New Claim

New dependent claim 20 has been added to round out the coverage of the scope of the invention. Claim 20 specifically recites the control circuit shifts amplitudes of the ON gate

voltage and OFF gate voltage, and maintains a constant **amplitude** difference between the ON gate voltage and OFF gate voltage. The recited structure is clearly not disclosed in Fujii.

Applicant respectfully submits that the additional language recited in new claim 20 is not necessary for patentability of claims 1, 10 and 11 over Fujii. However, should the Examiner deem the additional language necessary to render claims 1, 10 and 11 allowable, in the interest of early allowance of this application, Applicant will consider incorporating the additional language in new claim 20 into independent claims 1, 10 and 11.

Claim Rejections Under 35 USC 103

Claims 4, 5, 9 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujii (US 7,071,929) in view of Moriyama (US 2001/0017611). Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fujii (US 7,071,929) in view of Hong (US 2004/0169627). These rejections are respectfully traversed.

Given the traversal of the independent claims 1, 10 and 11, the rejection of dependent claims 4, 5, 8, 9 and 13 are rendered moot. These claims are likewise patentable for at least the reasons given above.

CONCLUSION

In view of all the foregoing, Applicant submits that the claims pending in this application are patentable over the references of record and are in condition for allowance. Such action at an early date is earnestly solicited. **The Examiner is invited to call the undersigned representative to discuss any outstanding issues that may not have been adequately addressed in this response.**

The Assistant Commissioner is hereby authorized to charge any additional fees under 37 C.F.R. §§ 1.16 and 1.17 that may be required by this transmittal and associated documents, or to credit any overpayment to **Deposit Account No. 501288** referencing the attorney docket number of this application.

Respectfully submitted,

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